REMARKS

The Office Action of July 14, 2003 has been carefully reviewed and these remarks are responsive thereto. Reconsideration and allowance of the instant application are respectfully requested.

Claims 1-7 and 9-20 remain in this application. Claims 1, 2, and 5 have been amended.

The drawings are objected to as not showing a "table". There is no table claimed in the apparatus claims and thus the objection is improper. Moreover, the table referred to in the process of claim 1 is a table of values, not a physical structure. That is, the moisture content value is obtained by looking up the specific density measured in a table. Tables to obtain one value from another value are well within the skill of the art. Claim 1 was amended to clarify the relationship of the specific density to the table to obtain the moisture content of the bulk material. Withdrawal of this objection is requested.

Check with someone

Claims 1, 2, and 5 were objected to for minor informalities. These informalities have been corrected in accordance with the Examiner's suggestions.

The indication that Claims 7, 8, 10-12 and 17-20 are allowable if written in independent form, is appreciated.

Claim 1 remains rejected as anticipated by Hane. This rejection is respectfully in error and should be withdrawn.

Claim 1 is directed to a method for determining the moisture content of bulk material comprising:

-determining the volume of a quantity of bulk material,

-determining the weight of the quantity of bulk material,

-determining the specific density from the volume and the weight, and

-finally determining the moisture content by comparing the specific density with a table.

The only feature common to claim 1 and Hane is that the moisture ratio (content) of organic material is measured. Hane is particularly directed to the determination of the moisture ratio of wood, although seed and wood chips are not excluded. Claim 1 is directed to measuring the moisture content of bulk material. Bulk material is given broadest interpretation

The main difference between the method of Hane and the method of claim 1 resides in the manner in which the moisture ratio is determined. In Hane, the moisture ratio is measured by measuring the attenuation or phase shift of electromagnetic waves. These values both have a relation to the propagation of electromagnetic waves in matter, and they are apparently a measure for the moisture content. All

Hane provides a formula in column 1, lines 35 et seq., that the moisture ratio is defined as the weight of the wet material minus the weight of the dry material (the difference being the weight of the moisture content) divided by the weight of the dry material. When those two weights are known, the moisture ratio can be determined. However, it is difficult to determine the weight of the dry material, as the material is not present in its dry form. Hane solves this problem by using the measurement obtained from the propagation of electromagnetic waves.

The process of claim 1 does not obtain a moisture ratio using the formula found in column 1 of Hane. In fact, the process of claim 1 cannot use this formula because the weight of the dry bulk material is not known or determined. The process of claim 1 does not utilize measurements of electromagnetic waves to obtain the dry weight. Find in reference All the claim calls for is

Instead, the process of claim 1 obtains the moisture content of bulk material by first determining the weight (related to volume), calculating the specific density, and then using empirical knowledge of the relationship between moisture content and specific density to determine the moisture content of the bulk material. This empirical knowledge is provided in the table. In other words, only the weight of a volume of bulk material is measured. A calculation using weight and volume provides the specific density. The moisture content is then determined from the specific density. This process is performed without knowledge of the specific weight of the *dry* material.

Hence, the process of claim 1 is completely different from the teaching of Hane. Hane

does not teach or suggest the method according to claim 1. Withdrawal of this rejection is requested.

Claims 2 and 3 remain rejected as unpatentable over Hane in view of Cherry et al. This rejection is respectfully in error and should be withdrawn.

Claim 2 is directed to a method for preparing bulk material with a predetermined moisture content comprising:

-determining the volume of a quantity of bulk material,

-determining the weight of the quantity of bulk material, and

-adding water to the quantity of bulk material until the weight associated with the desired moisture content is obtained.

Hane is directed to measuring the moisture content of wood. The measurement is made, for example, to manage the drying process in the most effective way. See column 1, lines 12-18. Generally, it is not advantageous for the moisture content of wood to be too high. Hence, it would be senseless to add water to the wood.

Claim 2 is directed to obtaining a certain moisture content in bulk material. Such bulk material is used as substrate material for plants, which must have specific moisture content for optimal processing. This bulk material is not wood.

Specifically, the process of claim 2 relies on two values, the volume of a quantity of bulk material and the weight of the quantity of bulk material. Water is added to the bulk material until the weight is obtained that corresponds to the desired moisture content. This feature of claim 2 is thus disclosed in Hane. As noted above, Hane's measurements are used to help determine the most effective means to dry wood. There is no teaching or suggestion in Hane that the addition of water is desirable or, even if it was desirable, how the desired moisture content would be obtained.

Hane does not teach or suggest the process of claims 2 and 3. Cherry does not remedy the defects of Hane. Cherry is directed to the use of electromagnetic signals to monitor water content of a medium such as compost. The system requires an electromagnetic signal generator

and transmission line disposed in a medium. The types of materials that Hane and Cherry are measuring are different. Moreover, the addition of water in Example 3 of Cherry was made after the compost had been air dried and was part of the process of determing the MAG vs. Signal Propagation Time for FIG 3 and there is no reason that Hane would have been modified based on this example. Withdrawal of this rejection is requested.

Claim 4 remains rejected as anticipated by Oetiker. This rejection is respectfully in error and should be withdrawn.

Claim 4 is directed to an apparatus for determining the moisture content of bulk material comprising:

-a supply vessel placed on a weighing device;

-a feed device for feeding predetermined volumes to the supply vessel;

-a discharge device for the supply vessel; and

-a computer for determining the moisture content from the supplied volume and the measured weight.

Oetiker discloses an apparatus and process for measuring the moisture content of spoilable foodstuffs such as grain on a *continuous* basis. The moisture content is measured *electrically* with a capacitor by measuring the dielectric constant (ϵ) of the material. In other words, Oetiker utilizes electrical signals to obtain the moisture content measurement.

The Oetiker apparatus allows for the *continuous flow* of material through a supply vessel 16 and discharge device 23. Oetiker discloses adding water but as part of the system for continuously measuring the moisture content of a bulk product. Oetiker does not measure the weight of a predetermined volume of the grain and then determine the moisture content from these measurements.

Thus, Oetiker describes a different apparatus to measure moisture than the apparatus of claim 4, which has a weighing device to weigh *batches* of a predetermined volume of material, and utilizes the *measured weight* to determine moisture content. The apparatus of claim 4 must operate in batches because it is necessary to determine the weight of a fixed volume of material.

Claim 2 Try Hane reference together

That is, the computer determines the moisture content from the *supplied* volume and the *measured* weight, the weight obtained from the weighing device.

Oetiker does not teach or suggest a weighing device for measuring the moisture content of bulk material in accordance with instant claim 4. Moreover, the device described in the background section of Oetiker does not weigh a predetermined volume and use a computer to determine the moisture content from the supplied volume and the measured weight. Instead it takes ~~a~~ *pre-measured* weight and uses a *condenser and electrical values* to determine moisture content.

Neither does claim 4

It was measured somewhere. Would not one know the volume of 70?

It is not clear how the Oetiker apparatus would be modified to use a condenser to determine moisture content; however, even if so modified, one skilled in the art still does not arrive at the apparatus of claim 4. The background device provides a pre-measured weight. The instant apparatus measures the weight of a predetermined volume of material. The *predetermined volume* and *measured weight* provide the necessary information for the computer to determine the moisture content of the bulk material. Oetiker does not teach or suggest the apparatus of claim 4. Withdrawal of this rejection is requested.

Claims 5, 6, 9 and 13-16 remain rejected over Oetiker et al in view of Bajema et al. These claims depend from claim 4. For the reasons identified above, Oetiker does not teach or suggest the apparatus of claim 4. Specifically the Oetiker device is for *continuous* measurement of moisture using *dielectric constants* and does not teach or suggest a weighing device for weighing a predetermined volume (batch) of bulk material and a computer for determining the moisture content of the bulk material based on the volume and weight of the batch. Bajema does not remedy the defects of Oetiker.

Bajema is directed a ground-crop harvester control system. Bajema utilizes electrical measurements to measure the height of the material. It is not clear how or why Oetiker would have been modified to measure the height of the material flowing through it. Moreover, even if so modified, the instant claims require a weighing device.

Column 8 of Bajema mentions measuring moisture level of the soil to provide optimal operating conditions of the conveyor. No information is provided as to how such readings are

achieved. There is no suggestion of a weighing device to weigh a predetermined volume of material to determine the moisture content. Moreover, the conveyor operates in a continuous (not batch) mode. There is no reason one skilled in the art would have modified Oetiker based on Bajema and arrive the apparatus of the instant claims. Withdrawal of the instant rejection is requested.

CONCLUSION

In view of the above amendments and remarks, withdrawal of the instant objections and rejections and issuance of a Notice of Allowance is requested.

Respectfully submitted,

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